

A new species of *Maratus* (Araneae: Salticidae) from southwestern Australia

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Abstract – A new species of the salticid genus *Maratus*, *Maratus limmaei*, is described from southwestern Western Australia.

INTRODUCTION

The Australian endemic spider genus *Maratus* Karsch 1878 was first described from “Austral. sept.” based upon *M. amabilis* and *M. amoenus* (now recognised as a synonym of *M. volans* (O.P.-Cambridge)) (see Žabka 1987). It was subsequently synonymised with *Saitis* Simon 1876 (Simon 1901a, 1901b), and revalidated by Žabka (1987) who provided morphological features that could be used to separate these two genera: males of *Maratus* species have a scute over the entire dorsal abdomen which has extendable side-flaps and is covered with special coloured hairs which given the abdomen a silk-like lustre that can vary in colour according to the angle of view. These modifications and the colours and patterns of the coloured hairs are species specific. Males also have the third legs longer than the others and these legs have a thick brush of hairs on the tibia and metatarsi (and other leg segments and legs depending on the species) whilst the tarsi of these legs have thick white hairs on the dorsal surface.

Female *Maratus* have body patterning in varying amounts of speckling and patching in creams, tans, browns, greys and blacks that are species specific but they lack any of the special attributes of the males and must be distinguished from related genera by genitalic differences. The main distinguishing feature in female *Maratus* genitalia is that the spermathecae are wider than the fossae. The genus currently contains six named species (Platnick 2008), all from Australia: *M. amabilis* Karsch 1878; *M. mungaich* Waldock 1995; *M. pavonis* (Dunn 1947); *M. rainbowi* (Roewer 1951), *M. vesperilio* (Simon 1901a) and *M. volans* (O.P.-Cambridge 1874). During an on-going revision of *Maratus*, about 15 new species have been recognised (Waldock, unpublished data), greatly expanding the diversity and extent of the group. Many of these species are highly restricted in distribution, including a new species from Two Peoples Bay Nature Reserve in southwestern

Australia. To further document the diversity of *Maratus* in Australia, I hereby describe this new species.

All of the material examined for this study is lodged in the Western Australian Museum, Perth (WAM). The female genitalia were examined by dissecting the epigynum from the abdomen and clearing it in 10% lactic acid at room temperature for a day. The epigynum was mounted in glycerol and drawn with a camera lucida on an Olympus BH-2 compound microscope. Other drawings were made using a graticule fitted to a Leica MS 5 dissecting microscope.

SYSTEMATICS

Family Salticidae Blackwall 1841

Genus *Maratus* Karsch 1878

Maratus Karsch 1878: 27; Žabka 1987: 479.

Type species

Maratus amabilis Karsch 1878, by subsequent designation of Bonnet 1957: 2713.

Remarks

The salticid genus *Maratus* currently contains six named species (Žabka 1987, 1991; Waldock 1995; Platnick 2008), although 15 new species have been recognised during a review of all Australian museum collections (Waldock, unpublished data).

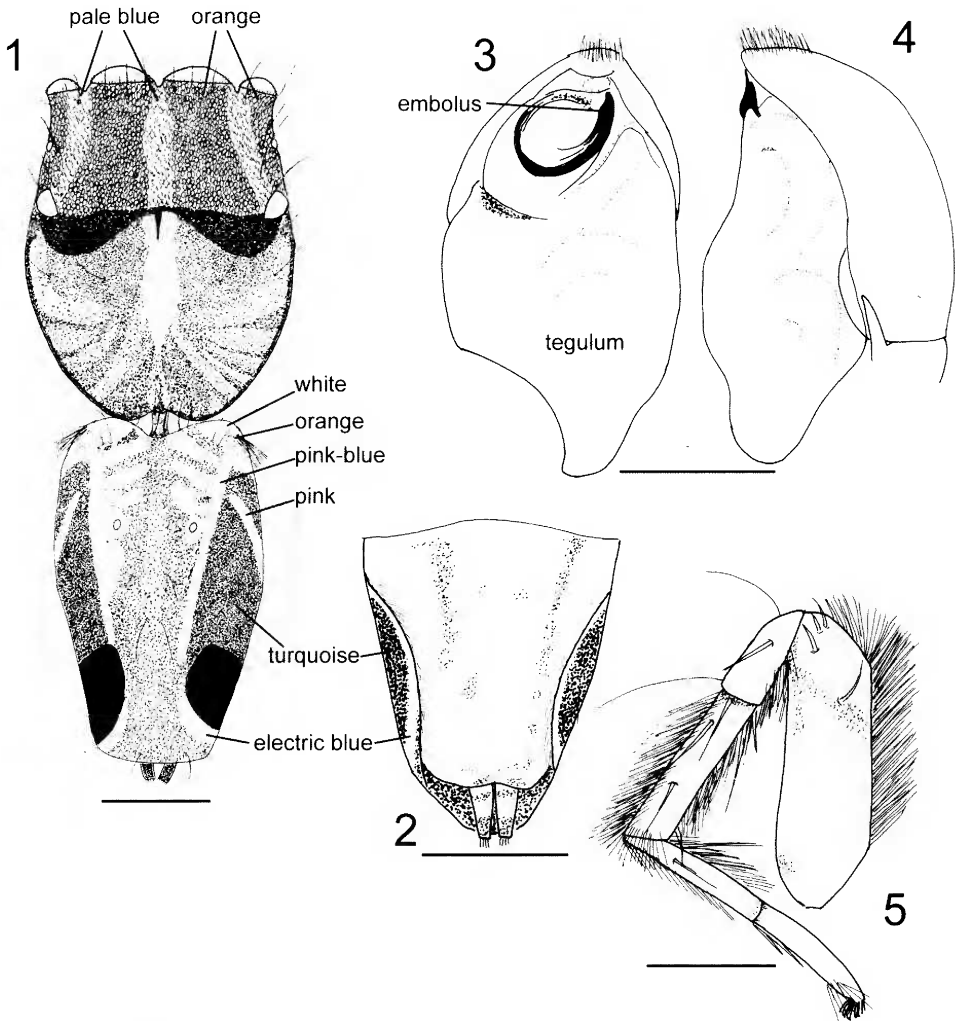
Maratus limmaei new species

Figures 1–8

Material examined

Holotype

Australia: Western Australia: ♂, Two Peoples Bay Nature Reserve, track to Robinsons Gully, 34°58'45"S 118°11'10"E, 14 October 2006, M.L. Moir, J.M. Waldock (WAM T78896).



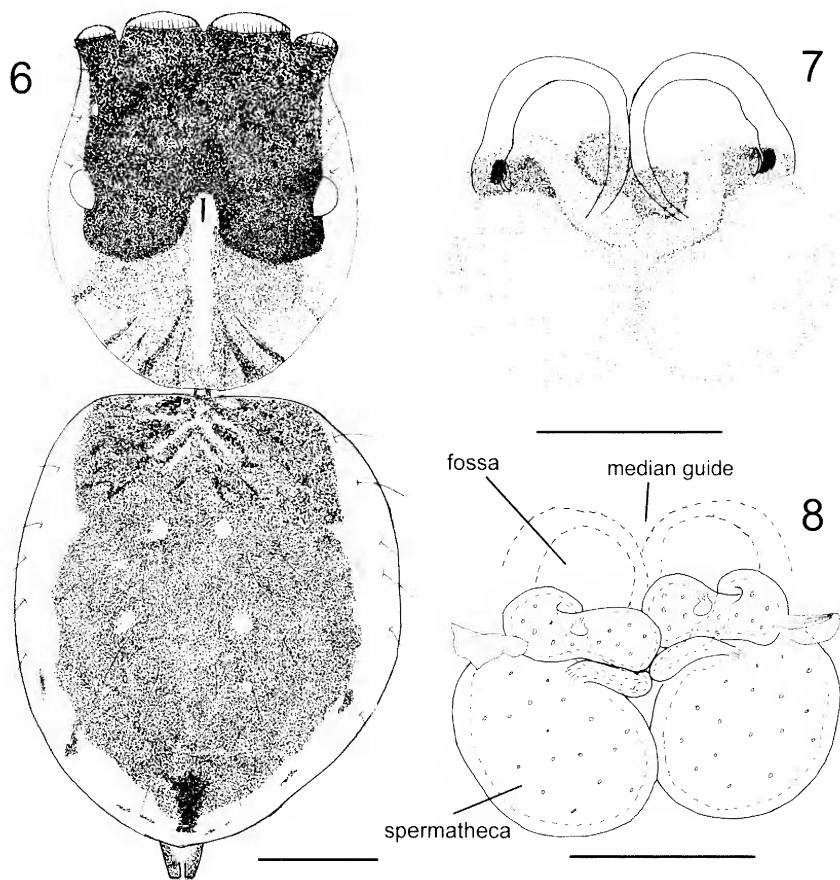
Figures 1-6 *Maratus linnaei* new species, holotype ♂ (WAM T78896): 1, cephalothorax and abdomen, dorsal; 2, abdomen, ventral, folded abdominal flaps; 3, left pedipalp, ventral; 4, left pedipalp, retrolateral; 5, right leg III, retrolateral.

Paratypes

Australia: Western Australia: 1 ♂, Two Peoples Bay Nature Reserve, 34°58'58"S 118°11'18"E, Firebreak Valley bottom, wet pitfall traps, 23-30 October 1995, S. Comer (WAM T75712); 1 ♀, Two Peoples Bay Nature Reserve, track to Robinsons Gully, 34°58'45"S 118°11'10"E, 14 October 2006, M.L. Moir, J.M. Waldock (WAM T88431); 1 ♀, Two Peoples Bay Nature Reserve, track to Robinsons Gully, 34°58'54"S 118°11'11"E, 14 October 2006, M.L. Moir, J.M. Waldock (WAM T78897); 1 ♂, 1 ♀, Two Peoples Bay Nature Reserve, track to Robinsons Gully, 34°58'45"S 118°11'10"E, on sandy track, 14 October 2006, M.L. Moir, J.M. Waldock (WAM T79108, 79109).

Diagnosis

Maratus linnaei differs from all other described and undescribed species currently known by the following combination of characters: male with abdominal lateral edges extended into flaps that fold under the abdomen but do not reach venter; abdomen with brown and tan patches and two iridescent pink to blue-coloured stripes extending on either side diagonally between brown patches; crescent-shaped electric blue patches each side of spinnerets on matte black patch on dorsal abdomen; tibia III with brushes of cream and grey bristles and hairs on all segments; legs I and II with shorter cream-coloured brushes on femora; alternate blue and



Figures 7-9 *Maratus linnaei* new species, paratype ♀ (WAM T88431): 6, cephalothorax and abdomen, dorsal; 7, epigyne, ventral; 8, epigyne, dorsal.

orange strips of squamous hairs extending between and behind anterior medium eyes over ocular area. Female with large grey patch over most of abdomen; venter cream-coloured with greyish longitudinal stripes; epigyne with swollen proximal receivers, intermediate canals short and lying lengthwise across anterior portion of spermathecae with openings off-centre of anterior margin of spermathecae.

Description

Male (holotype)

Cephalothorax: dark brown without white hairs around lateral edges, border dark grey. Dense scattering of orange and pale blue squamous hairs covers ocular region as narrow stripes of pale blue from anterior of posterior lateral eyes to gap between anterior lateral eyes and medium eyes and a thinner stripe of pale blue hairs anterior to fovea extending to gap between

medium eyes, rest of ocular area filled in with wider stripes of orange hairs. Behind anterior lateral eyes and along posterior edge of ocular area are two black areas lacking scattered short white hairs. Extending posteriorly from edge of ocular area a stripe of dense white hairs covers fovea extending as far as descending part of cephalothorax. Two patches of white hairs also extend posteriorly from under posterior lateral eyes. Anterior eyes fringed with bright orange hairs dorsally and white hairs between anterior lateral eyes and medium eyes; rest of cephalothorax lightly covered with scattering of short white hairs. Clypeus dark yellow, chelicerae tan-coloured. Maxillae dark yellow, light cream distally, labium tan. Sternum yellow with grey speckling.

Abdomen: rectangular, dorsal surface covered with a species specific pattern of short squamous hairs of pink, pink-blue diagonal stripes laterally

and two longitudinal pink-blue stripes meeting with matte-black patches and two electric-blue crescents just anterior to spinnerets. Dorsal abdominal scute developed as lateral flaps which fold along abdomen sides not extending over venter, but can be extended laterally to exhibit a continuation of dorsal pattern. Abdominal pattern consists of tan-coloured central patch bordered by pink-blue longitudinal stripes which extend into larger patches anteriorly and become white with blue flecks. Two narrow diagonal stripes of iridescent pink to pale blue squamous hairs extend to abdomen edges. Sides of abdomen dark brown overlain with dark turquoise-coloured squamous hairs except posterior third which has matte black patches edged with electric blue squamous hairs patches anterior to spinnerets. Small patches of bright orange squamous hairs at anterior corners of abdomen associated with tufts of bristles. Edges of abdominal flaps with thin line of electric blue squamous hairs along border, rest of flaps dark brown overlain with dark turquoise-coloured squamous hairs. Stiff black bristles scattered over dorsal abdomen and cephalothorax. Venter of abdomen pale yellow with two grey longitudinal stripes and grey speckling between. Long white hairs border abdominal flaps. Spinnerets dark grey.

Pedipalp: Palp light cream with scattered grey patches (Figures 3, 4). Tibial apophysis narrow, straight with tip slightly hooked. Ventral surface of palpal tibia without spurs. Cymbium, dorsal tibia and dorsal patella densely covered with long white hairs, a single very long black hair on dorsal palpal patella and tibia as well as a few on external ventral side just under tegulum. Embolus tightly coiled and tucked under tip of cymbium; tegulum with two bulges, one behind the other, next to embolus; anterior bulge slightly smaller.

Legs: femorae, patellae, tibiae, metatarsi and tarsi yellow with greyish bands on all segments except tarsi. Covered with short white hairs interspersed with black bristles, except for leg III which has a brush of bristles and thick hairs on dorsal and ventral surfaces of femora and tibia, and only ventral surface of patella and metatarsus. Tarsi III covered with long white hairs distally that extend over tips of claws. Dorsal brush thickest and of dark grey and cream bristles, ventral brushes cream only. Femora of legs I and II with shorter brushes of cream-coloured hairs dorsally only. Leg formula: III: IV: I=II.

Female (paratype, WAM T88431)

Cephalothorax: ocular region and areas posterior to posterior lateral eyes dark brown with short black and cream hairs, rest of cephalothorax brown grading to tan along sides with scattered

black and cream hairs. Indistinct striping on cephalothorax sides of brown over dark yellow delineated with white hairs. Border of cephalothorax dark grey. Light tan patch over fovea extending from posterior edge of ocular area in a stripe of dense cream-coloured hairs as far as descending part of cephalothorax. Abdomen oval with grey sigillae, most of dorsum dark grey extending to spinnerets, laterally cream-coloured with black bristles scattered amongst dark hairs and a small patch of white bristles just above spinnerets. Clypeus creamy yellow with white hairs, chelicerae dark yellow with greyish patches. Maxillae, labia and sternum yellow with grey speckling; venter of abdomen cream with greyish patches in longitudinal stripes. Ventral spinnerets cream-coloured, dorsal spinnerets dark grey.

Epigyne: proximal receivers swollen, overlapping across median guide. Intermediate canals lying across spermathecae and opening mid-laterally into spermathecae. Fertilisation ducts situated laterally on spermathecae. Walls of spermathecae thickened.

Legs: yellow with dark grey banding on all segments. Leg formula: III: IV: I: II.

Variation

One of the male paratypes (WAM T79108) has orange squamous hairs mirroring pattern of pink lateral stripes and bright blue longitudinal stripes.

Dimensions (mm)

Holotype ♂ (WAM T78896): total length (excluding chelicerae) 3.60. Carapace length 1.75. Abdomen length 1.80. Leg I: femur 0.90, patella 0.50, tibia 0.45, metatarsus 0.45, tarsus 0.30. Leg II: femur 0.85, patella 0.50, tibia 0.45, metatarsus 0.40, tarsus 0.35. Leg III: femur 1.45, patella 0.65, tibia 0.80, metatarsus 0.80, tarsus 0.40. Leg IV: femur 1.00, patella 0.55, tibia 0.55, metatarsus 0.75, tarsus 0.40.

Paratype ♀ (WAM T88431): total length (excluding chelicerae) 4.35. Carapace length 2.07. Abdomen length 2.15. Leg I: femur 0.95, patella 0.50, tibia 0.55, metatarsus 0.45, tarsus 0.35. Leg II: femur 0.90, patella 0.55, tibia 0.50, metatarsus 0.45, tarsus 0.35. Leg III: femur 1.52, patella 0.65, tibia 0.85, metatarsus 0.75, tarsus 0.50. Leg IV: femur 1.20, patella 0.60, tibia 0.75, metatarsus 0.85, tarsus 0.50.

Etymology

This species is named in honour of Carolus Linnaeus, in celebration of the 250th anniversary of publication of the 10th edition of *Systema Naturae*.

Remarks

Maratus linnaci has been collected only from Two Peoples Bay Nature Reserve in southwestern Australia, from *Banksia* dominated heathland. As indicated by the sparse collections, males of *M. linnaci* are active during the southern hemisphere spring month of October.

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